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8   UNITED STATES DISTRICT COURT

9   SOUTHERN DISTRICT OF CALIFORNIA

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11   BLAST MOTION, INC., a California   Case No.: 15-CV-700 JLS (NLS)
     corporation,
12   **ORDER ON CLAIM
                                    Plaintiff, CONSTRUCTION**
13
     v.
14
     ZEPP LABS, INC., a Delaware
15   corporation,

16   Defendant.

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18   Plaintiff Blast Motion, Inc. ("Blast") brings suit against Defendant Zepp Labs, Inc.

19   ("Zepp") for infringement of U.S. Patent Nos. 8,902,855 (the "'855 patent"), 8,903,521

20   (the "'521 patent"), 9,039,527 (the "'527 patent"), 8,944,928 (the "'928 patent"), and

21   8,941,723 (the "'723 patent"). Defendant counterclaims against Plaintiff for infringement

22   of U.S. Patent Nos. 8,781,610 (the "'610 patent"), and 8,989,441 (the "'441 patent"). The

23   patents are in the field of motion detection and analysis, particularly as applied to analyzing

24   a user's motions in various sports (e.g., the swing of a baseball bat or golf club). After

25   considering the briefing and oral argument, the Court construes the disputed claim terms

26   as follows.

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LEGAL STANDARD

I.   Claim Construction

"A determination of infringement involves a two-step analysis. 'First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process.'" *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1320 (Fed. Cir. 2003) (citing *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed. Cir. 1993)).

The first step, commonly known as claim construction, is presently before the Court. Claim construction is a matter of law for the Court's determination. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996) ("[J]udges, not juries, are the better suited to find the acquired meaning of patent terms.").

Words of a claim are "generally given their ordinary and customary meaning." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). Because the inquiry into the meaning of claim terms is an objective one, "a court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). "Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."[1] *Id.* (citing, *inter alia*, *Vitronics*, 90 F.3d at 1582–83).

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[1] The first three sources are considered "intrinsic evidence" of claim meaning. *See generally Phillips*, 415 F.3d at 1314–17.

1   Claim construction begins with an analysis of the words of the claims themselves.

2   *See Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, 365 F.3d 1299, 1303 (Fed. Cir. 2004)

3   (holding that claim construction "begins and ends" with claim's actual words). "In some

4   cases, the ordinary meaning of claim language as understood by a person of skill in the art

5   may be readily apparent even to lay judges, and claim construction in such cases involves

6   little more than the application of the widely accepted meaning of commonly understood

7   words." *Phillips*, 415 F.3d at 1314. However, the meaning of a claim term as understood

8   by ordinarily skilled artisans often is not immediately apparent. *Id.* In those situations, the

9   court looks to "sources available to the public that show what a person of skill in the art

10 would have understood disputed claim language to mean." *Id.* Or, when a patentee

11 "chooses to be his own lexicographer and use terms in a manner other than their ordinary

12 meaning," the court can use the patentee's meaning "as long as the special definition of the

13 term is clearly stated in the patent specification or file history." *Vitronics*, 90 F.3d at 1582.

14 In examining the claims themselves, "the context in which a term is used can be

15 highly instructive." *Phillips*, 415 F.3d at 1314. Moreover, "[o]ther claims of the patent in

16 question, both asserted and unasserted can . . . be valuable sources of enlightenment as to

17 the meaning of a claim term." *Id.* (citing *Vitronics*, 90 F.3d at 1582). "Because claim

18 terms are normally used consistently throughout the patent, the usage of a term in one claim

19 can often illuminate the meaning of the same term in other claims." *Id.* Conversely, under

20 the doctrine of claim differentiation, "'different words or phrases used in separate claims

21 are presumed to indicate that the claims have different meanings and scope.'" *Andersen*

22 *Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1369 (Fed. Cir. 2007) (quoting *Karlin*

23 *Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999)).

24 "Importantly, the person of ordinary skill in the art is deemed to read the claim term

25 not only in the context of the particular claim in which the disputed term appears, but in

26 the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313.

27 "The specification acts as a dictionary when it expressly defines terms used in the claims

28 or when it defines them by implication." *Vitronics*, 90 F.3d at 1582. "In addition to

1 providing contemporaneous technological context for defining claim terms, the patent
2 applicant may also define a claim term in the specification 'in a manner inconsistent with
3 its ordinary meaning.'" *Metabolite Labs., Inc. v. Lab. Corp. of Am.*, 370 F.3d 1354, 1360
4 (Fed. Cir. 2004). "Usually, [the specification] is dispositive; it is the single best guide to
5 the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582; *accord Phillips*, 415 F.3d at
6 1317 ("It is . . . entirely appropriate for a court, when conducting claim construction, to
7 rely heavily on the written description for guidance as to the meaning of the claims.").

8   Patent claims should ordinarily be construed to encompass the preferred
9 embodiments described in the specification, for "[a] claim construction that excludes a
10 preferred embodiment . . . 'is rarely, if ever, correct.'" *SanDisk Corp. v. Memorex Prods.,*
11 *Inc.*, 415 F.3d 1278, 1285 (Fed. Cir. 2005) (quoting *Vitronics*, 90 F.3d at 1583). However,
12 a court should not import limitations from the specification into the claims, *Phillips*, 415
13 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of
14 the invention, we have repeatedly warned against confining the claims to those
15 embodiments."), absent a specific reference in the claims themselves, *Reinshaw PLC v.*
16 *Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) ("[A] party wishing to
17 use statements in the written description to confine or otherwise affect a patent's scope
18 must, at the very least, point to a term or terms in the claim with which to draw in those
19 statements.").

20   The patent's prosecution history, if in evidence, may also shed light on claim
21 construction. *Vitronics*, 90 F.3d at 1582. "This history contains the complete record of all
22 proceedings before the Patent and Trademark Office [("PTO")], including any express
23 representations made by the applicant regarding scope of the claims." *Id.* "Like the
24 specification, the prosecution history provides evidence of how the PTO and the inventor
25 understood the patent." *Phillips*, 415 F.3d at 1317. Although the prosecution history
26 "often lacks the clarity of the specification," it is nevertheless useful to show "how the
27 inventor understood the invention and whether the inventor limited the invention in the
28 course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

1   "In most situations, an analysis of the intrinsic evidence alone will resolve any
2   ambiguity in a disputed claim term. In such circumstances, it is improper to rely on
3   extrinsic evidence." *Vitronics*, 90 F.3d at 1583. Thus, expert testimony on the proper
4   construction of disputed claim terms "may only be relied upon if the patent documents,
5   taken as a whole, are insufficient to enable the court to construe disputed claim terms."
6   *Vitronics*, 90 F.3d at 1585.

7   However, *Vitronics* does not state a rule of admissibility, nor does it "prohibit courts
8   from examining extrinsic evidence, even where the patent document is itself clear." *Pitney*
9   *Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999). As the Federal
10   Circuit has made clear:

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12   [B]ecause extrinsic evidence can help educate the court regarding the field of
    the invention and can help the court determine what a person of ordinary skill
13   in the art would understand claim terms to mean, it is permissible for the
    district court in its sound discretion to admit and use such evidence.
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16   *Phillips*, 415 F.3d at 1319; *accord Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716
17   (Fed. Cir. 1998) ("[T]rial courts generally can hear expert testimony for background and
18   education on the technology implicated by the presented claim construction issues, and
19   trial courts have broad discretion in this regard."). The court is not "barred from
20   considering any particular sources or required to analyze sources in any specific sequence,
21   as long as those sources are not used to contradict claim meaning that is unambiguous in
22   light of the intrinsic evidence." *Phillips*, 415 F.3d at 1324 (emphasis added); *see also*
23   *Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1302 (Fed. Cir. 2005) ("Extrinsic
24   evidence, such as expert testimony, may be useful in claim construction, but it should be
25   considered in the context of the intrinsic evidence.").

26   **II.   Definiteness**

27   Patent claims must point out with particularity the subject matter regarded as the
28   claimed invention. 35 U.S.C. § 112(b). Section 112(b) requires that "a patent's claims,

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viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). If not, the patent claim fails § 112(b) and is indefinite. *Id.* Definiteness is evaluated from the perspective of someone skilled in the relevant art at the time the patent was filed. *Id.* at 2128.

III.   Functional Claiming

A patent claim may be expressed in functional language. 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, paragraph 6 (also referred to as Section 112(f)) provides that "an element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C.A. § 112(f).

However, § 112(f) does not apply to all functional language. There is a rebuttable presumption that § 112(f) applies if a claim term uses "means," and that it does not apply in absence of this term. *Williamson*, 792 F.3d at 1348. The standard to rebut either presumption "is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Id.* at 1349. Thus, the "presumption against the application of § 112, ¶ 6 to a claim term lacking the word 'means' can be overcome if a party can 'demonstrate . . . that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371–72 (Fed. Cir. 2015) (citing *Williamson*, 792 F.3d at 1349–50). "In undertaking this analysis, we ask if the claim language, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6." *Id.* (internal quotation marks omitted). "Structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d

1303, 1311 (Fed. Cir. 2001). With respect to computer-implemented functional claims, a "microprocessor or general purpose computer lends sufficient structure only to basic functions of a microprocessor. All other computer-implemented functions require disclosure of an algorithm." *EON Corp. IP Holdings LLC v. AT & T Mobility LLC*, 785 F.3d 616, 623 (Fed. Cir. 2015). "The algorithm may be expressed as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Williamson*, 792 F.3d at 1352 (citing *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012)).

If § 112(f) applies, the functional claim term is limited to "only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson*, 792 F.3d at 1347. Construing a functional term requires two steps. "First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs the function." *Noah Sys., Inc.*, 675 F.3d at 1311 (quoting *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1332 (Fed. Cir. 2006)).

DISCUSSION

The parties dispute the meaning of nine claim terms or phrases. The parties originally disputed the meaning of ten terms or phrases, but prior to the *Markman* hearing Defendant dropped the term "slow motion display . . . at normal speed" as used in the '527 patent. (ECF No. 83, at 2.[2]) The disputed claim terms are spread across seven patents belonging to both Plaintiff (five) and Defendant (two). The first five terms are addressed to Plaintiff's patents. The remaining terms are addressed to Defendant's patents. Thus, brief descriptions of Plaintiff's patents are provided below, followed by a discussion of their respective disputed terms, and Defendant's patents and terms are discussed thereafter.

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[2] Pin citations refer to the CM/ECF numbers electronically stamped at the top of each page.

1   **I.   Plaintiff's Patents**

2   All five of Plaintiff's patents are in the same patent family. They are directed

3   generally to capturing motion data using a motion sensor, which then wirelessly transmits

4   all or some of the data to a separate device for further analysis. Each of Plaintiff's five

5   patents focuses on a different aspect of this general concept.

6   *A. Patent No. 8,905,855 ("System and Method for Utilizing Motion Capture Data")*

7   This invention is directed to a system and method where a user can compare motion

8   analysis data to previously stored data from that user, another user, and/or the same or

9   another piece of sporting equipment. The claims require both a motion capture element

10   and an application ("app") executable on a mobile device. The motion capture element

11   (i.e., a sensor) is attached to the user or a piece of equipment and captures data such as

12   orientation, position, velocity, or acceleration associated with the user or piece of

13   equipment. The sensor then sends the data to the app on a mobile device, where the mobile

14   device receives, analyzes, and stores the data. Finally, the mobile device displays a

15   comparison between the captured motion data and previously stored data.

16   *B. Patent No. 8,903,521 ("Motion Capture Element")*

17   This invention is directed to an apparatus (i.e., motion capture element) capable of

18   detecting a false positive event. The sensor first estimates an initial orientation based on

19   motion capture data from two points in time. The sensor then collects data that comprise

20   sensor values, which the sensor will compare to determine if there is a false positive event.

21   In particular, if a first value meets a threshold value and a second value meets a second

22   threshold value in a specific time window, the sensor signifies a prospective event. This

23   prospective event is compared to data associated with a typical event in order to determine

24   whether there has been a false positive. If the signified event is a valid event (i.e., not a

25   false positive), the sensor then saves the valid event in memory, stores the data, and

26   transmits the data via radio.

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C. Patent No. 9,039,527 ("Broadcasting Method for Broadcasting Images with Augmented Motion Data")

This invention is directed to a broadcasting method for broadcasting images alongside motion data. According to the claims, a camera captures at least one image associated with a motion capture element, or a user associated with a motion capture element, or both. Next, a computer wirelessly receives both the image(s) and the motion capture data. In possession of both the image(s) and the motion data, the computer then draws an avatar or image of the user, and then overlays at least one of the following onto the image or avatar: a 3-D overlay, rating, power factor, calculated ball flight path, timeline, an impact location, or slow motion display. At this point, the computer broadcasts the avatar(s) and/or the image(s) to a multiplicity of display devices.

D. Patent No. 8,944,928 ("Virtual Reality System for Viewing Current and Previously Stored or Calculated Motion Data")

This invention is directed to a method for the virtual reality display of motion analysis data associated with a user or piece of equipment using an avatar. First, a sensor captures values such as orientation, position, velocity, or acceleration associated with a user or piece of equipment. The sensor then sends the motion capture data to a mobile device, which in turn analyzes and stores the data. The mobile device also accesses previously stored motion capture data. The mobile device then displays a virtual reality display using an avatar to compare the motion data (i.e., both the motion data it just received and the previously stored motion data).

E. Patent No. 8,941,723 ("Portable Wireless Mobile Device Motion Capture and Analysis System and Method")

This invention is directed to a system (i.e., a motion capture element and an app executable on a mobile device) for capturing data associated with a user or piece of equipment and storing the data in remote storage. As with many of Plaintiff's patents, the system first requires a motion capture element (i.e., sensor) configured to capture motion data such as orientation, position, velocity, and acceleration. The mobile device recognizes

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1   and associates the motion capture element with assigned locations of a user or piece of

2   equipment. The mobile device wirelessly receives the data associated with the motion

3   capture element, then analyzes and displays the motion analysis data on the user's mobile

4   device. Because the mobile device is configured to communicate wirelessly with the

5   remote database, the mobile device will store such data in the remote database (i.e., not on

6   the mobile device itself).

7   **II.   Disputed Terms in Plaintiff's Patents**

8   A. *"said data" ('928 patent, claim 1[3]; '855 patent, claims 1, 3–6; '521 patent, claims*

9   *1, 4, 5, 14, 19)*

10   Plaintiff would construe the term as "data that comprises sensor values." (ECF No.

11   83, at 3.) Defendant argues the term is indefinite. (*Id.*) The Court agrees with Plaintiff

12   and finds that "said data" is not indefinite. Thus, the Court construes the term "said data"

13   to mean "data that comprises sensor values."

14   Defendant argues that "said data" is indefinite because, as an antecedent, it must

15   refer back to a particular type of data. (Def.'s Br. 10, ECF No. 48.) However, Defendant

16   argues that it fails to do so, and thus a person of ordinary skill would not understand what

17   "said data" refers back to. (*Id.* (citing Declaration of Steven Nesbit in Support of Zepp's

18   Opening Claim Construction Brief ("Nesbit Decl.") ¶ 23, ECF No. 48-4).) Specifically,

19   Defendant argues there are two types of data: (1) data that comprises sensor values

20   collected by the microcontroller from a sensor, and (2) data associated with said at least

21   one motion capture element that is received by a computer on a mobile device. (*Id.* at 11.)

22   However, according to Defendant, there is no way of knowing whether both sets of data

23   are the same. (*Id.*) Additionally, Defendant argues that the claims of the '521 patent and

24   claim 3 of the '855 patent further complicate the problem, since they state that a "valid

25   event" is saved as "said data." (*Id.* at 11–12.) Thus, Defendant argues that these claims

26   impossibly require "'said data' to be simultaneously the sensor values collected from the

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[3] Claim locations are based on the parties' recently filed Joint Hearing Statement. (*See* ECF No. 83.)

1   sensors, just the subset of that data constituting a valid event, and some unspecified set of

2   data associated with the motion capture element." (*Id.* at 12 (citing Nesbit Decl. ¶ 29).)

3   As to Plaintiff's proposed construction, Defendant argues that Plaintiff arbitrarily

4   chooses one of these data types and assigns "said data" to encompass only that type of data,

5   ignoring the other "data" limitations in the claims. (*Id.* at 12–13.) Regarding the '855 and

6   '928 patents, Defendant argues that Plaintiff equates "data that comprises sensor values"

7   with "data associated with said at least one motion capture element." (*Id.* at 13.) However,

8   Defendant contends that the specification contains several embodiments suggesting that

9   "data associated with a motion capture element" may include more than just "data that

10 comprises sensor values collected from a sensor." (*Id.* (collecting citations).) Regarding

11 the '521 patent and claim 3 of the '855 patent, Defendant argues that Plaintiff's

12 construction does not address the difference between "data that comprises sensor values"

13 collected from the sensor and "valid event data" identified following analysis of sensor

14 values. (*Id.*) However, Defendant argues that the patent distinguishes both types of data;

15 specifically, the motion capture element is capable of transmitting *all* motion data or just a

16 subset of that data. (*Id.* (citing '855 patent, at 25:5–17).) Thus, Defendant argues that these

17 claims are indefinite because they fail to clarify to a person of ordinary skill which data

18 "said data" applies to. (*Id.*)

19   Plaintiff responds that Defendant can only argue that the term is indefinite by

20 ignoring the context of the claims and the specification. (Pl.'s Resp. Br. 4, ECF No. 59.)

21 Specifically, Defendant admits that the term is not indefinite as used in the '723 patent.

22 (*Id.*) Plaintiff provides a chart demonstrating that the only difference between the disputed

23 claims of the '855 and '921 patents and the '723 patent claims is a missing "said" before

24 "data associated with said at least one motion capture element" that only appears in the

25 '723 patent. (*Id.* at 5.) Plaintiff argues that this minor difference would not render the

26 claims indefinite because all the patents share the same specification, claims, and figures

27 discussing "said data." (*Id.* at 6 (citing Declaration of Kenneth A. Zeger ("Zeger Decl.")

28 ¶ 16, ECF No. 59-1).) Second, Plaintiff argues that the missing "said" does not create two

1   different types of data. (*Id.* at 5.) Specifically, Plaintiff notes that the mobile device and/or

2   app receives data that comprises sensor values via said wireless communication interface.

3   Thus, according to Plaintiff, there is no other *type* of data that is transmitted via the wireless

4   communication interface, and thus this data must be the data "said data" refers to.

5   According to Plaintiff, Defendant's other argument—that "said data" must mean a

6   specific number of data (i.e., all data that comprises sensor values or a subset of sensor

7   values, but never both)—similarly fails because that is not required by the plain language

8   of the claims. (*Id.* at 6–7.) Plaintiff argues that the claims only refer to two *types* of data:

9   (1) data that comprises sensor values, or (2) motion analysis data. (*Id.* at 7.) Thus, Plaintiff

10 argues that a person of ordinary skill would understand that "valid event" is saved as "said

11 data," which is stored, transmitted, and later analyzed to form motion analysis data. (*Id.* at

12 7.) A person of ordinary skill would further understand that the microcontroller is capable

13 of using any number of sensor values, but would recognize that the *type* of data is the same

14 (i.e., data that comprises sensor values). (*Id.*) Thus, Plaintiff argues that "said data" is not

15 indefinite.

16   The Court agrees with Plaintiff and finds that "said data" is not indefinite as to all

17 the disputed claims. As Plaintiff noted in its Responsive Brief, the claims require a motion

18 capture element to "collect data that comprises sensor values" from a sensor, store "said

19 data," and then "transmit said data." At this stage, it is clear that "said data" refers to "data

20 that comprises sensor values." Then, the claim requires a mobile device that has a wireless

21 communications interface to obtain "said data." At this stage, it is clear that the mobile

22 device receives "said data" (i.e., data that comprises sensor values). The mobile device

23 also contains a computer configured to "receive data associated with at least one motion

24 capture element," and then analyzes "said data" to form "motion analysis data." Here is

25 where the trouble starts. Defendant argues that "data associated with at least one motion

26 capture element" is different than "data that comprises sensor values," and thus the

27 following "said data" is indefinite. However, the Court agrees with Plaintiff that the only

28 data transmitted from the motion capture element to the mobile device is "data that

1 comprises sensor values." Under this plain reading of the claim language, no other data is

2 transmitted, and thus no other data can be analyzed by the computer to create motion

3 analysis data. Thus, while Defendant correctly notes that data associated with at least one

4 motion capture element *can* theoretically include things other than data that comprises

5 sensor values, the claims do not require that particular data to be transmitted. They only

6 explicitly require data comprising sensor values to be transmitted from the motion capture

7 element to the mobile device via the wireless communication interface. Thus, the Court

8 finds that this term is not indefinite.

9   Regarding the '521 patent and claim 3 of the '855 patent, a person of ordinary skill

10 would understand that "said data" refers to analyzed data signifying a "valid event." Like

11 the other claims, this claim requires a motion capture element that collects "data that

12 comprises sensor values" from its sensor. However, instead of transmitting all of this data

13 to another device for calculation, the claim requires that the motion capture element itself

14 analyzes these sensor values to signify a "valid event." Then, the motion capture element

15 will "save valid event . . . as said data," store "said data," and transmit "said data." Thus,

16 a person of ordinary skill would understand that "said data" as used in these claims refers

17 not to the all of the "data that comprises sensor values," but simply a subset of that data

18 that constitutes a "valid event" (i.e., '855 patent, claim 3, '521 patent, claim 1 ("information

19 within an event time window")). Accordingly, this term is not indefinite as used in the

20 '521 patent and claim 3 of the '855 patent. Thus the Court construes "said data" to mean

21 "data that comprises sensor values."

22   ***B. "virtual reality system / virtual reality display" ('928 patent, claim 1; '855 patent,***

23   ***claim 13)***

24   Plaintiff would construe this term to mean "computer-simulated replication of an

25 aspect of a physical environment / display showing a computer-simulated replication of an

26 aspect of a physical environment." (Pl.'s Br. 11, ECF No. 49.) Defendant would construe

27 the term as "system/display that enables a user to interact with a simulated environment

28 that renders simulations of the user's physical movements." (*Id.*) The Court agrees with

1   Plaintiff that the term does not necessarily require user interaction that renders simulations

2   of the user's physical movements. Thus, the Court construes "virtual reality system /

3   virtual reality display" to mean "computer-simulated replication of an aspect of a physical

4   environment / display showing a computer-simulated replication of an aspect of a physical

5   environment."

6   Plaintiff argues that its construction is consistent with both intrinsic and extrinsic

7   evidence. For instance, Plaintiff argues that the '928 patent describes a number of

8   computer-simulated replications of a physical environment. (Pl.'s Br. 11, ECF No. 49

9   (citing, e.g., '928 patent, at 11:27–30).) In contrast, Plaintiff argues that Defendant

10 commits legal error by seeking to require a user to interact with a simulated environment

11 that simultaneously renders simulations of the user's movement. (*Id.* at 12.) For one,

12 Plaintiff notes that the term "real-time" appears only once in the '855 and '928 patents and

13 not in the context of virtual reality. (*Id.* at 13.) Finally, Plaintiff argues that, despite

14 Defendant's arguments, the Applicant did not make any substantive remarks during

15 prosecution of the '855 and '928 patents that would limit the scope of virtual reality to

16 Defendant's proposed construction. (*Id.* at 12–13.)

17   Defendant responds that the '928 and '855 patents never define virtual reality and

18 are silent on the underlying characteristics of virtual reality technology. (Def.'s Resp. Br.

19 7, ECF No. 60.) However, Defendant argues that each of Plaintiff's citations to the

20 specification actually support Defendant's construction because those sections indicate use

21 of the user's motion data, including to augment the display of or to control the user in a

22 virtual reality environment.[4] (*Id.*)

23   Defendant also argues that the Applicant disclaimed claim scope in prosecuting the

24 patents at issue. Specifically, in prosecuting the '855 and '928 patents, the Applicant

25 differentiated both patents by arguing that the '855 patent was directed to running a

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28 [4] The parties also cite dictionary definitions to support their respective constructions. (*See* Pl.'s Br. 12, ECF No. 49; Def.'s Resp. Br. 7–8, ECF No. 60.)

1   software application on a mobile device to display motion data, which was a different
2   invention than displaying motion data in the virtual reality environment claimed by the
3   '928 patent. (Def.'s Br. 14, ECF No. 48.) Thus, according to Defendant, the Applicant
4   explicitly represented to the Patent Office that "virtual reality" does not cover using a
5   software application running on a mobile device to display motion data. (*Id.* at 14–15.)
6   Given this prosecution history, Defendant argues that Plaintiff's broad construction seeks
7   to recapture what the Applicant allegedly disclaimed. (*Id.* at 15.)

8   Plaintiff responds that, as an initial matter, there is nothing in Defendant's proposed
9   construction that would exclude an app embodiment from the scope of a "virtual reality"
10 system or display. (Pl.'s Resp. Br. 7, ECF No. 59.) Furthermore, Plaintiff argues that
11 Defendant repeatedly misrepresents the prosecution history. (*Id.* at 8.) Most notably,
12 Plaintiff argues that the Notice of Allowance demonstrates that the '928 claims *can* cover
13 an app, just not customized virtual reality hardware. (*Id.* (citing Yoon Decl. Ex. E, at 10
14 ("The advantage of the present claims is that they present the analysis in a virtual reality
15 environment using a player-representative avatar instead of a [sic] using generic format on
16 customized hardware as in Barton.")).)

17   The Court agrees with Plaintiff and finds that "virtual reality system/display" does
18 not require user interaction that renders simulations of the user's movements. First, the
19 specifications of the patents contain several examples of a virtual reality display and/or
20 system that do not require user interaction. For instance, the patent describes a scenario
21 that "enables users not associated with the motion capture element and optionally not even
22 the mobile computer potentially to obtain monitor messages, . . . for example to <u>watch a</u>
23 <u>virtual reality</u> match or performance . . . ." '928 patent, at 24:32–40 (emphasis added). A
24 user who simply *watches* a virtual reality match cannot interact with that simulated
25 environment, as Defendant suggests. Additionally, the brief summary of the invention
26 explains that "[e]mbodiments of the invention enable a virtual reality system <u>for viewing</u>
27 current and <u>previously stored or calculated</u> motion data." *Id.* at 3:28–30 (emphases added).
28 In addition to the explicit word "viewing," which is itself an inherently passive term (and

used throughout the patent), a user who views his *previously stored motion data* does not need to further interact with the simulated environment.[5] Indeed, the patents describe an embodiment whereby a user can wear virtual reality sunglasses to simply view his previous motion capture data and compare his performance to another user's. *See* '928 patent, at 28:58–29:7; '855 patent, at 30:29–45. Thus, the intrinsic evidence does not support Defendant's argument that the virtual reality system/display necessarily requires user interaction or simultaneous rendering of the user's movement.[6]

Furthermore, the Court finds that the Applicant did not disclaim claim scope during the prosecution history of the '928 and '855 patents. As Defendant notes, the Examiner rejected the '928 patent application on double-patenting grounds based on the related '855 patent application. (Def.'s Br. 14, ECF No. 48.) The Applicant telephonically conferred with the Patent Office, which summarized the call as follows:

> [Applicant] discussed amending the claims in pending 13/298,158 to cite the cell phone application embodiment of the claims, such as an application purchased from the Apple or Android application stores. Such a modification would distinguish from the present case and obviate the double-patenting issue. The present claims pertain to a virtual reality environment.

(Declaration of Carolyn Chang ("Chang Decl.") Ex. K, at 62, ECF No. 48-3 (emphases added).)

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[5] Of course, for past player user data to exist, the user must have interacted with the method at some point. However, this does not change the fact that *at a later point* the user can simply load up his previous data in a virtual reality display and view his prior performance.

[6] To be sure, Defendant is right that some embodiments of the '928 patent contemplate user interaction in real time. *See, e.g.*, '928 patent, at 34:23–28 ("In one or more embodiments, the players shown may be avatars in a virtual reality game, which are moving in concert with real instrumented players . . . ."). But it would be legal error to import this embodiment—even if it is the preferred embodiment—into the claim language, given that the patents also contemplate virtual reality scenarios without user input and simultaneous virtual rendering of his movements. *See Phillips*, 415 F.3d at 1323.

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1   However, the Applicant never explicitly disclaimed a virtual reality app in any

2   written communication to the Patent Office when prosecuting the '928 patent. Nor does

3   the Defendant cite to any. To the contrary, the Patent Office later issued the patent, noting

4   that the "advantage of the present claims is that they present the analysis in a virtual reality

5   environment using a player-representative avatar instead of . . . using generic format on

6   customized hardware as in Barton," and noted that the Applicant "may have different

7   reasons for allowance." (Yoon Decl. Ex. E, at 10, ECF No. 49-11.) There is no indication

8   from this statement or the Applicant's own statements to the Patent Office that the '928

9   patent cannot utilize an app in the operation of the virtual reality system. If anything, the

10   above suggests, and Plaintiff admits, that the Applicant disclaimed use of a virtual reality

11   environment on customized hardware as depicted in the prior art. And the '928 patent

12   specification describes use of a mobile device app in various locations. *See, e.g.,* '928

13   patent, at 23:12–21 ("Embodiments of the invention make use of the data from the mobile

14   computer and/or server for [numerous applications] for example on a cell phone including

15   virtual reality applications that make use of the user's current and/or previous data . . . .").

16   To be sure, the Applicant eventually added the mobile app claim language in the

17   application that matured into the '855 patent, but did not add the app claim language in the

18   application that became the '928 patent. *Compare* '928 patent, claim 1 ("providing a

19   mobile device" that "displays" information on a virtual reality display), *with* '855 patent,

20   claim 1 ("providing an application that executes on a mobile device" that "displays"

21   information on a virtual reality display (as described in dependent claim 13)). But without

22   a clear statement from the Applicant disclaiming the use of an app in the '928 patent, the

23   Court declines to conclude this is an instance where "the specification or prosecution

24   history make clear that the invention does not include a particular feature." *GE Lighting*

25   *Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (alterations omitted);

26   *see also id.* (noting that the "standards for finding . . . disavowal are exacting").

27   / / /

28   / / /

1   Accordingly, the Court construes "virtual reality system / virtual reality display" as

2   "computer-simulated replication of an aspect of a physical environment / display showing

3   a computer-simulated replication of an aspect of a physical environment."

4   ### C. "avatar" ('928 patent, claim 1; '527 patent, claims 1, 2, 14)

5   Plaintiff would construe the term as "computer graphical representation of a user."

6   (ECF No. 83, at 3.)   Defendant would construe the term as "a computer graphical

7   representation of a computer user that is manipulated by a computer user." (*Id.*) The Court

8   agrees with Plaintiff that the avatar does not necessarily have to be manipulated by the

9   user.   Thus the Court construes the term "avatar" to mean "computer graphical

10   representation of a user."

11   Plaintiff argues that its proposed construction is consistent with the Applicant's

12   definition of the term during prosecution of the '928 patent and the patent specifications.

13   (Pl.'s Br. 14, ECF No. 49.)   There, the Applicant stated "in light of the specification, one

14   of ordinary skill in the art would necessarily understand wherein the term 'avatar' is a

15   ***computer graphical representation of a user***." (*Id.* (citing Ex. E, at 23, ECF No. 49-11

16   (emphasis supplied by Plaintiff)).)   Plaintiff acknowledges that, in the next sentence, the

17   Applicant disclosed a definition from Merriam-Webster Dictionary defining "avatar" as

18   "an electronic image that represents and is manipulated by a computer user (as in a

19   computer game)." (*Id.*)   However, Plaintiff argues that this is a superfluous mention, and

20   that the Applicant never limited the term "avatar" to be manipulated by a computer user.

21   (*Id.*)   Next, Plaintiff argues that the claims and specification further support its

22   construction.   Plaintiff notes, for instance, that the specifications of the '928 and '527

23   patents describe avatars in environments beyond avatar-based user-manipulated games.

24   (*Id.* (comparing, e.g., '928 patent at claim 1 ("display information comprising at least one

25   avatar"), with claim 12 ("display a game comprising at least one avatar")).)   Additionally,

26   Plaintiff argues that the intrinsic evidence never suggests that an avatar needs to be

27   manipulated by a computer user. To the contrary, Plaintiff contends, for instance, that the

28   specification describes how an avatar can be displayed based on previously stored data,

1   which suggests no user manipulation. (*Id.* at 14–15 (citing, e.g., '527 at 22:30–34 ("For

2   example, a player may play against an opponent, who may be a historical figure displayed

3   as an avatar for example on a television 141, 143 or Internet broadcast.")).)

4   Defendant responds that the plain language of the claims require user manipulation.

5   (Def.'s Resp. Br. 8, ECF No. 60 (citing '928 patent at claim 1 ("display information

6   comprising at least one avatar *associated with said at least one user on a virtual reality*

7   *display **based on said motion analysis data associated with said user or piece of***

8   ***equipment***") (emphases supplied by Defendant)).) Defendant further argues that the

9   Applicant's dictionary definition requiring user manipulation is not "superfluous," but is

10   instead consistent with how the term "avatar" is used in the sixty-five times it appears in

11   four of Plaintiff's patents. (*Id.* at 8–9.) Furthermore, Defendant notes that its construction

12   is not limited to computer games and does not require the graphical representation of the

13   computer user to be contemporaneously manipulated by the computer user, thus

14   encompassing avatars based on previously stored data. (*Id.* at 9.)

15   The Court agrees with Plaintiff and finds that the term "avatar" allows for, but does

16   not require, user manipulation. For example, the specifications of the patents describe, in

17   several instances, the use of avatars based on historical players. The '527 patent explains

18   that historical players can be "great players" in a particular game (e.g., tennis), against

19   which a user can compare his data or play in a virtual reality game. '527 patent, at 41:44–

20   56. The specification notes that the movement data of historical players (e.g., a tennis

21   superstar's signature swing), whether alive or dead, can be collected by analyzing

22   television images of that player and storing that data for later use. *Id.* at 41:21–25. In at

23   least one embodiment, "the players shown may be <u>avatars</u> in a virtual reality game, which

24   are moving in concert with real instrumented players or data from a previous performance

25   of the same or other user <u>or the motion of a historical player as analyzed in one or more</u>

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1   embodiments of the invention." *Id.* at 41:57–62 (emphasis added).[7] In other words, the

2   invention here describes a virtual reality game where a user could have an avatar that moves

3   along with his movements (that is, user-manipulated) playing against an avatar that moves

4   based on already-set computer calculations (that is, not user-manipulated). *See also* '928

5   patent, at 7:63–8:7. Indeed, the specification further discloses that "[a]ny model or avatar

6   of a user, whether following the motion of an instrumented user, or previous motion of the

7   user or another user or historical player may be utilized in displaying players in a virtual

8   reality game, albeit using motion capture data whether calculated or from a motion capture

9   sensor associated with a player or piece of equipment." '527 patent, at 41:57–66 (emphases

10   added). Thus, the term "avatar" does not require user manipulation.

11   Furthermore, the Court finds that the Applicant's statements made during

12   prosecution history do not constitute an explicit definition of "avatar." As the Federal

13   Circuit has explained, "[t]he standards for finding lexicography and disavowal are

14   exacting. To act as its own lexicographer, a patentee must 'clearly set forth a definition of

15   the disputed claim term,' and 'clearly express an intent to define the term.'" *GE Lighting*,

16   750 F.3d at 1309. Here, the Applicant stated that "in light of the specification, one of

17   ordinary skill in the art would necessarily understand" the term "avatar" to mean "a

18   computer graphical representation of a user." (Yoon Decl. Ex. E, at 23, ECF No. 49-11.)

19   This is not a clear expression of intent to define "avatar" because the Applicant notes that

20   a person of ordinary skill in the art would already necessarily understand it to mean "a

21   computer graphical representation of a user" based on the specification, not a specific

22   definition provided by the Applicant. And even if the Applicant explicitly intended to

23   define avatar in this statement, that definition is made ambiguous by the citation to the

24   Merriam-Webster Dictionary definition, which further requires that the image "is

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26   [7] There are even less interactive embodiments contemplated by the patents. *See, e.g.*, '527 patent, at
27   22:19–22 ("[M]otion depiction for statistical use, for display use, for use in a game, or any other related
     application and broadcast the motion analysis data to a multiplicity of televisions or computers viewable
     by users 151. Embodiments may also broadcast information comprising at least one avatar associated with
28   the at least one user on a virtual reality display.").

1   manipulated by the user." Defendant's definitional argument fails for the same reason (that

2   is, the dictionary definition is undercut by Plaintiff's description of the term without a

3   user's manipulation). Given this ambiguity, the Court cannot say that the Applicant clearly

4   defined "avatar" in the cited passages of the prosecution history. *See 3M Innovative Props.*

5   *Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013) ("Where an applicant's

6   statements are amenable to multiple reasonable interpretations, they cannot be deemed

7   clear and unmistakable.").

8   Accordingly, the Court construes the term "avatar" to mean "computer graphical

9   representation of a user."

10   **D. "broadcasting" ('527 patent, claims 1–3, 14)**

11   Plaintiff would construe the term as "transmitting information to a display device."

12   (ECF No. 83, at 3.) Defendant would construe the term as "transmission of information to

13   a wide audience through a network of multiple receivers." (*Id.* at 3–4.) At the *Markman*

14   hearing, Plaintiff agreed with the Court that "broadcasting," as used in the '527 patent,

15   contemplates sending information to a multiplicity of devices. (Hr'g Tr. 57, ECF No. 89.)

16   Accordingly, the Court construes "broadcasting" to mean "transmitting information

17   capable of being received by multiple display devices."

18   In its Opening Brief, Defendant argues that while the claims are not limited to

19   television broadcasts, the descriptions in the patent make clear that "broadcasting" does

20   not refer to the mere transmission of data. (Def.'s Br. 19, ECF No. 48.) Specifically,

21   Defendant argues that "broadcasting" requires more than just transmitting data that may

22   ultimately reach multiple devices because the general transmission of data through email,

23   text, and social media that eventually reaches multiple devices is already described in

24   Plaintiff's other patents. (*Id.* (collecting citations).) Thus, Defendant argues that its

25   construction, requiring simultaneous transmission to multiple receivers, takes into account

26   ///

27   ///

28   ///

1   the general understanding of "broadcasting" by those skilled in the art.[8] (*Id.* (citing Nesbit

2   Decl. ¶¶ 39–41).)

3   Plaintiff argues that Defendant commits legal error by importing limitations into the

4   meaning of "broadcast." (Pl.'s Br. 16, ECF No. 49; *see also* Pl.'s Resp. Br. 9–10, ECF

5   No. 59.) Specifically, Plaintiff notes that the word "wide" never appears in the '527 patent

6   specification, and would thus further confuse the meaning of "broadcast" since it is

7   unknown what "wide" would mean under Defendant's construction. Moreover, Plaintiff

8   argues there is no reason to include "audience" in the construction because that term only

9   appears with relation to a television broadcast, which Plaintiff argues is only one example

10   of a "broadcast" in the '527 patent. (Pl.'s Br. 16, ECF No. 49.) Additionally, Plaintiff

11   argues that requiring broadcasting to be done through a "network of multiple receivers"

12   would render the claim term "to a multiplicity of display devices" meaningless.[9] (*Id.* at

13   16–17.)

14   The Court agrees with Plaintiff and finds that the term "broadcast" does not require

15   a (1) "wide audience" or (2) "through a network of multiple receivers" as Defendant

16   suggests. First, the term "audience" appears only in reference to television broadcasts, and

17   the '527 patent plainly contemplates other types of broadcasts. *See, e.g.*, '527 patent, at

18   4:48–54   In addition, the term "wide" itself is open to interpretation, which would further

19   confuse, rather than clarify, the term "broadcast."   Second, Defendant's addition of

20   "through a network of multiple receivers" is an unsupported additional limitation, since the

21   patent explains that a broadcast can be sent directly to a device and thus does not require

22   the broadcast to first go through a network of multiple receivers. *Id.* Accordingly, the

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[8] Furthermore, Defendant notes that other courts construing "broadcasting" have construed the term to require transmission to multiple receivers. (*Id.* (citing, e.g., *Discovery Patent Holdings, LLC v. Amazon.com, Inc.*, 769 F. Supp. 2d 662, 671 (D. Del. 2011) (interpreting "broadcast" as "sent via a simultaneous transmission to multiple recipients" rather than merely "transmitted")).)

[9] Plaintiff also cautions against adopting the constructions from other courts cited by Defendant because those constructions invoke the term "broadcast" in contexts unrelated to the '527 patent, including constructions of patents from the 1990s. (Pl.'s Resp. Br. 10, ECF No. 59.)

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1 Court construes "broadcast" to mean "transmitting information capable of being received

2 by multiple display devices."

3 **III.   Defendant's Patents**

4   Defendant's patents are directed to motion sensor devices capable of conducting

5 initial processing of data collected from the motion sensors to determine what subset of

6 data should be transmitted to a computer for further analysis and display.

7   *A. Patent No. 8,989,441 ("Data Acquisition Method and Device for Motion*

8   *Recognition, Motion Recognition System and Computer Readable Storage*

9   *Medium")*

10   The significance of the '441 patent is that it includes additional functionality in the

11 data acquisition device (i.e., sensor). In particular, the sensor conducts an initial analysis

12 of the sensor data to exclude data constituting irrelevant motion, thus selecting and saving

13 only motion data that is of interest to the user. In other words, the sensor can determine

14 whether a user is swinging a golf club or is just walking around. All of the claims of the

15 '441 patent are directed to this initial processing of motion data conducted on the data

16 acquisition device. The scope and validity of this initial processing of data and the

17 "module" that accomplishes those calculations are disputed by both parties.

18   *B. Patent No. 8,781,610 ("Method of Ball Game Motion Recognition, Apparatus for*

19   *the Same, and Motion Assisting Device")*

20   The '610 patent is directed to methods for analyzing motion data from motion

21 sensors that include confirming motion parameters like acceleration, velocity, position, and

22 stance. These motion parameters are then used to recognize features typical of sports

23 motions, like swinging a bat, or impact with a ball. Thus, the invention can recognize and

24 differentiate between sport motions and other non-sport motions (e.g., simply walking

25 around).

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IV.   **Disputed Terms in Defendant's Patents**

   A. *"initial motion recognition module" ('441 patent, claims 1, 9, 13, 15)*

   This is one of three "module" terms in dispute. Plaintiff argues that this term is indefinite under 35 U.S.C. § 112(f). (ECF No. 83, at 2.) Defendant argues that the term is not indefinite or even governed by 35 U.S.C. § 112(f), and instead proposes that the term be construed as "hardware and/or software that receives and processes data acquired by motion sensors." (*Id.*) The Court agrees with Defendant and thus construes the term as "hardware and/or software that receives and processes data acquired by motion sensors."

   Before addressing "initial motion recognition module," Defendant sets forth arguments that apply to all three disputed "module" terms. According to Defendant, the '441 patent discloses a device that, in addition to collecting and transmitting sensor data, has the ability to conduct an initial analysis of the data to identify some subset of the data that it later transmits to another computer for further analysis. (Def.'s Br. 24, ECF No. 48.) The patent claims this method by describing the following steps of (1) "performing an initial recognition with respect to motion data acquired by a sensor" to determine a motion trigger point by an "initial motion recognition module"; (2) storing a motion trigger point and a certain number of frames of data collected before and after that trigger point by a "data storage module"; and (3) forwarding the stored data to a computing device by a "communications module." (*Id.* (citing '441 patent, at claim 1, Steps S1 and S2).) Defendant argues that Plaintiff wrongly asserts that these "modules" are means-plus-function terms governed by 35 U.S.C. § 112(f). For one, Defendant argues that its module terms do not meet the Patent Office's 3-prong test to determine whether a limitation is governed by § 112(f). (*Id.* (citing *Manual of Patent Examining Procedure* § 2182(I)).) Furthermore, Defendant argues that Plaintiff's reliance on *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015), to argue that "module" terms are presumed "means-plus-function" terms is misplaced because its module terms do not use "module" as a way to functionally claim the structure of the claimed apparatus or rely on functional language to define the required steps of the method. (*Id.* at 25.)

1   As to the "initial motion recognition module" itself, Defendant argues that this

2 module is part of the data acquisition device (e.g., sensor) that performs the step of

3 conducting an initial motion recognition with respect to motion data acquired by a sensor.

4 (Def.'s Br. 26, ECF No. 48.) The patent specification explains that

5

6   various functional modules included in various embodiments provided
     in the present disclosure may be integrated in a single processing

7   module, or exist separately as a physical module. Alternatively, two or
     more of such functional modules are integrated in one module.

8

9   The aforesaid integrated modules which are implemented as functional
     software modules may be maintained in a computer readable storage

10   medium, which comprises instructions that enable a computer device
     (e.g., a PC, server or network device, etc.) or a processor to execute part

11   of the steps included in the methods throughout the embodiments of the

12   present invention.

13

14 (*Id.* (citing '441 patent, at 12:22–37).) The specification further explains that the initial

15 motion recognition module is configured to perform an initial recognition, (*id.* (citing '441

16 patent, at 3:52–60; 5:16–23), which is accompanied by a detailed algorithm with detailed

17 steps for performing the initial motion recognition, (*id.* (citing '441 patent, at 5:58–6:18;

18 fig. 5 (steps 501 to 504)).) Thus, Defendant argues that a person of ordinary skill would

19 understand "the initial motion recognition module" to be "hardware and/or software that

20 receives and processes data acquired by motion sensors" and would also understand the

21 structure and acts it performs. (*Id.* (citing Nesbit Decl. ¶ 45).)

22   Plaintiff responds that the Patent Office's internal manual is not binding authority

23 on this Court and cannot usurp the authority set by the Federal Circuit. (Pl.'s Resp. Br. 12

24 n.7, ECF No. 59.) Instead, Plaintiff contends that the proper analysis is a two-step test to

25 interpret the scope of a means-plus-function claim: (1) identify the claimed function and

26 (2) determine what structure, if any, disclosed in the specification corresponds to the

27 claimed function. (*Id.* at 12 (citing *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed.

28 Cir. 2012)).) As to the first step, Plaintiff responds that Defendant's only attempt to

1   distinguish *Williamson* is based on the court's construction of an apparatus claim rather

2   than a method claim. (*Id.* at 12.) However, Plaintiff notes that claim 9 of the '441 patent

3   is an apparatus claim and performs the same function as method claim 1. (*Id.*) Thus,

4   Plaintiff argues that claim 1 should be construed as a step-plus-function claim, while claim

5   9 as a means-plus-function claim. (*Id.*)

6   As to the second step, Plaintiff argues that "initial motion recognition module"

7   performs specialized functions (and thus requires a specialized computer), but no algorithm

8   is disclosed to connote structure. (*Id.*) Instead, Plaintiff argues that the specification

9   simply discloses conclusory function descriptions of the "initial recognition" step without

10   providing adequate structure or a specific algorithm needed to achieve the claimed

11   function. (Pl.'s Br. 19, ECF No. 49.) For example, the specification describes that the

12   initial motion recognition module "buffers the motion data transmitted from the sensor and

13   conducts a motion trigger point detection." (*Id.* (citing '441 patent, at 5:44–46).) Plaintiff

14   additionally notes that the steps at Figure 5, the "flow diagram of motion detection" that

15   Defendant cited for purported structure, do not disclose any algorithm to buffer motion

16   data or conduct a motion trigger point detection. (*Id.* (citing '441 patent, at 5:55–8:17).)

17   However, Plaintiff notes that these steps are simply further descriptions of the *function* of

18   the "initial motion recognition module," not an algorithm or any other explanation as to

19   *how* to implement these functions. (*Id.*) Furthermore, Plaintiff notes that the "initial

20   motion recognition module" also performs the function of "providing m*Fs frames of

21   motion data" and "providing n*Fs-1 frames of motion data." (*Id.* (citing '441 patent, at

22   claim 1; 12:52–56).) However, Plaintiff argues that the specification fails to describe *how*

23   the "initial motion recognition module" actually provides the frames of motion data. (*Id.*

24   at 21–22.)

25   Defendant responds that Plaintiff's argument that *Williamson* "and its progeny

26   *mandate* that use of the word 'module' places a term . . . squarely within the requirements

27   of 35 U.S.C. § 112(f)" is overbroad and that no such mandate exists. (Def.'s Resp. Br. 11,

28   ECF No. 60 (citing Pl.'s Br. 20, ECF No. 49 (emphasis supplied by Defendant)).) Instead,

1   Defendant argues that the *Williamson* Court simply abandoned the "'strong' [] presumption

2   that a limitation lacking the word 'means' is not subject to § 112, para. 6." (*Id.* (citing

3   *Williamson*, 792 F.3d at 1349).) If anything, Defendant argues that *Williamson* affirmed

4   the earlier presumption that "[w]hen a claim term lacks the word 'means,' the presumption

5   can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim

6   term fails to 'recite sufficiently definite structure' or else recites 'functions without reciting

7   sufficient structure for performing that function.'" (*Id.* (citing *Williamson*, 792 F.3d at

8   1349 (internal citations removed)).) Additionally, Defendant argues that Plaintiff provides

9   no argument or evidence to overcome that presumption, and thus its positions on the

10   "module" terms should be rejected for this reason alone. (*Id.* (collecting district court

11   authority finding the same).)

12   Furthermore, Defendant argues that Plaintiff's attempt to import structure into a

13   method claim (claim 1) is improper. (*Id.* at 12.) With respect to device claim 9, Defendant

14   argues that the claims provide sufficient detail as to how the initial motion recognition

15   module fits in with the remainder of the claim. (*Id.*) Defendant explains that "the IMR

16   [initial motion recognition] module is between the sensors and data storage module, and

17   receives or retrieves data acquired by motion sensors, processes the data into a specific set

18   of frames of data that relate to a motion trigger point, and provides those frames to the data

19   storage module. No aspirational result is claimed." (*Id.*)

20   Finally, Defendant argues that Plaintiff's two examples of the patent's failure to

21   disclose an algorithm are off the mark. (*Id.*) Defendant argues that Plaintiff's first

22   example—the algorithm to buffer motion data or conduct a motion trigger point

23   detection—is a straw man because the buffering step is *unclaimed* and thus irrelevant. (*Id.*)

24   Defendant argues that Plaintiff's second example—the algorithm that explains *how* the

25   initial motion recognition module provides frames of data—is disingenuous because the

26   answer is simple: via basic computer functions. (*Id.*) As further support, Defendant notes

27   that Plaintiff itself admits that "storing data is a basic function of a microprocessor" and

28

1   that storage structures are well-known (e.g., RAM or Flash memory). (*Id.* at 12–13 (citing

2   Pl.'s Br. 24, ECF No. 49)).)

3   The Court agrees with Defendant. As an initial matter, *Williamson* does not, as

4   Plaintiff suggests, stand for the broad proposition that the term "module" automatically

5   places it among terms such as "means" and "step for," thus triggering a presumption that

6   § 112(f) applies. Instead, the *Williamson* Court found that "'[m]odule is a well-known

7   nonce word that *can* operate as a substitute for 'means' in the context of § 112, para. 6."

8   792 F.3d at 1350 (emphasis added). The court then went on to assess whether the claimed

9   term "distributed learning control module" recited sufficient definite structure in order to

10   sustain or rebut the presumption *against* applying means-plus-function claiming (i.e., the

11   court analyzed the term as if the presumption did *not* apply). *Id.* at 1350–51. Finding that

12   it did not, the court *then* applied the two-step test to determine whether the specification

13   discloses sufficient structure that corresponds to the claimed function. *Id.* at 1351–1354.

14   Accordingly, the Court first assesses whether the claim term triggers the rebuttable

15   presumption that § 112(f) applies. *See also Media Rights Techs., Inc. v. Capital One Fin.*

16   *Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015) ("[I]t is equally understood that 'a claim term

17   that does not use 'means' will trigger the rebuttable presumption that § 112, [¶] 6 does not

18   apply.'").

19   Both claims 1 and 9 of the '441 patent do not use the trigger words "means," and

20   thus there is a rebuttable presumption that § 112(f) does not apply. *Williamson*, 792 F.3d

21   at 1348. The "presumption against the application of § 112, ¶ 6 to a claim term lacking the

22   word 'means' can be overcome if a party can 'demonstrate . . . that the claim term fails to

23   'recite sufficiently definite structure' or else recites 'function without reciting sufficient

24   structure for performing that function.'" *Media Rights Techs., Inc.*, 800 F.3d at 1371–72

25   (citing *Williamson*, 792 F.3d at 1349–50).

26   / / /

27   / / /

28   / / /

1   Here, the Court finds that there is adequate structure in the specification to sustain

2   the presumption that § 112(f) does not apply to the term "initial motion recognition

3   module." The relevant language from illustrative claim 1 reads:

4

5   Step S1) the initial motion recognition module performing an initial
     recognition with respect to motion data acquired by a sensor, and

6   providing m*Fs frames of motion data prior to the motion trigger point,
     motion data regarding the motion trigger point, and n*Fs-1 55 frames

7   of motion data after the motion trigger point to the data storage module

8   for storage . . . .

9

10   '441 patent, at 12:50–60 (emphasis added). While the claim language itself does not

11   describe the initial motion recognition module in detail, the specification clearly identifies

12   the "initial motion recognition module" and describes its structure and the process for

13   carrying out an initial motion recognition. *See Williamson*, 792 F.3d at 1351 (examining

14   the specification in conducting this analysis); *see also Media Rights Techs., Inc.*, 800 F.3d

15   at 1372 ("In undertaking this analysis, we ask if the claim language, *read in light of the*

16   *specification*, recites sufficiently definite structure to avoid § 112, ¶ 6." (emphasis added)).

17   As an initial matter, the patent acknowledges the use of "module" terms and explains how

18   they may appear in the claimed invention. *See, e.g.*, '441 patent, at 12:16–44; fig. 2.

19   Additionally, and as is discussed in much more detail below regarding "initial motion

20   recognition," the specification explains that the "initial motion recognition module" is

21   specifically configured to perform an initial motion recognition. *Id.* at 3:46–51. Among

22   other things, initial motion recognition involves the initial detection of a motion trigger

23   point. *Id.* at 3:52–60; 5:16–23. The specification then describes an algorithm for

24   performing the initial motion recognition. *Id.* at 5:58–6:18; fig. 5 (steps 501 to 504). For

25   instance:

26

27   Step 503 tries to detect the motion trigger point based on the acquired
     motion data. If the motion trigger point fails to be detected, the

28   currently acquired motion data is placed into the first buffer, and then

the process returns to Step 501 to acquire the next frame of motion data. If the motion trigger point is detected, the process proceeds to Step 504.

To be more specific, if the motion trigger point fails to be detected at Step 503, it is necessary to detect the motion trigger point with respect to each frame of motion data until the motion trigger point is eventually detected. The motion trigger point detection in this step comprises detection of stroke and a large-dimension motion. If a stroke or a large-dimension motion is detected, the motion trigger point is deemed to have been detected, and the motion trigger point status is set to "Non-idle". On the contrary, no motion trigger point is deemed to have been detected.

'441 patent, at 6:3–18 (emphases added). The specification then details how the initial recognition module detects a stroke, including three possible methods for doing so. *Id.* at 6:19–7:62. Thus, the Court is not convinced that the "initial motion recognition module" is the type of term wherein the Applicant sought "to capture any possible means for achieving [an] end." *Noah Sys., Inc.*, 675 F.3d at 1317. To the contrary, the specification provides adequate structure to enable a person of ordinary skill to understand the structure of the "initial recognition module," what it does, and how it does it. *Contra Media Rights Techs., Inc.*, 800 F.3d at 1372 ("The written description only depicts and describes how what is referred to as the 'copyright compliance mechanism' is connected to various parts of the system, how the 'copyright compliance mechanism' functions, and the potential—though not mandatory—functional components of the 'copyright compliance mechanism.'"). Accordingly, the Court finds that the term is supported by adequate structure and does not trigger the means-plus-function claiming requirements of § 112(f).[10] Thus, the Court construes "initial motion recognition module" to mean "hardware and/or software that receives and processes data acquired by motion sensors."[11]

---

[10] Thus, even if the Court concluded that the rebuttable presumption that § 112(f) applied in this instance, that presumption would be overcome based on the arguments set forth above.

[11] At the *Markman* hearing, Plaintiff objected to this construction because it allows for the possibility that the initial motion recognition module can just be software, which, it argues, is not supported by the

1

B. "data storage module" ('441 patent, claims 1, 8, 9, 16)

2   Plaintiff argues that the term is governed by 35 U.S.C. § 112(f) and should be

3   construed as "structure for storing motion data." (Pl.'s Br. 22, ECF No. 49.) Defendant

4   argues that the term is not governed by that Section and would construe the term to mean

5   "hardware and/or software that stores data." (*Id.*) The Court agrees with Defendant and

6   construes "data storage module" to mean "hardware and/or software that stores data."

7   Plaintiff, in its Opening Brief, argues that "data storage module" should be construed

8   as a means-plus-function term because the term claims functional language for storing

9   motion data. (Pl.'s Br. 23, ECF No. 49 (citing *Farstone Tech., Inc. v. Apple Inc.*, No.

10 8:L13-cv-1537, 2015 U.S. Dist. LEXIS 137819, at *8–9 (C.D. Cal. Oct. 8, 2015)

11 (determining that a "'backup/recovery module creating at least one recovery unit to hold

12 backup data' is in a format consistent with traditional means-plus-function claim

13 limitations")).) Specifically, Plaintiff argues that the data storage module "stores the

14 motion data transmitted from the initial motion recognition module." (*Id.* (citing '441

15 patent, at 3:50–51).) However, unlike "initial motion recognition module," Plaintiff argues

16 that "data storage module" discloses adequate structure and is not indefinite. (*Id.*) Here,

17 Plaintiff argues that claim 1 describes the function of the "data storage module" as

18 "storage." (*Id.* (citing '441 patent, at 12:56).) The specification additionally describes that

19 the data storage module holds sets of motion data such as those found in Figure 3. (*Id.*)

20 Thus, because the data storage module performs the basic functions of storing sets of

21 motion data, Plaintiff argues that structure is deemed to be connoted if the specification

22 describes a general purpose computer, which Plaintiff concedes it does. (*Id.* at 23–24.)

23   Defendant responds that Plaintiff's statements that data storage and transmission

24 were well-known and conventional support its position. (Def.'s Resp. Br. 13, ECF No.

25 60.) In particular, Defendant argues that even if a limitation recites "means" (these do not),

26

27 —————————————

28 specification. (Hr'g Tr. 3, ECF No. 91.) But, as discussed above, the specification explains that the
    patented modules can exist as software. *See, e.g.*, '441 patent, at 12:16–44.

1   if the context conveys sufficient structure or the associated function is well-known or

2   conventional, § 112(f) does not apply. (*Id.* (citing, e.g., *Lighting Ballast Control LLC v.*

3   *Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1338–39 (Fed. Cir. 2015); *TecSec, Inc. v. Int'l*

4   *Bus. Mach. Corp.*, 731 F.3d 1336, 1347–48 (Fed. Cir. 2013).) Thus, given Plaintiff's

5   concessions, Defendant argues that a person of ordinary skill would understand "data

6   storage module" to mean "hardware and/or software that stores data." (*Id.*) Finally,

7   Defendant argues that Plaintiff's reliance on *Farstone Tech* is misplaced. (*Id.*) In

8   particular, Defendant argues that the limitation in *Farstone Tech*—"backup/recovery

9   module *creating at least one recovery unit to hold backup data*"—recited a function

10   claiming a result rather than how to achieve it. (*Id.* (emphasis supplied by Defendant).) In

11   contrast, Defendant argues that the function of "data storage module" is far more

12   mundane—"storage"—and thus the module conveys sufficient structure. (*Id.*)

13   The Court agrees with Defendant that "data storage module" does not trigger the

14   presumption that § 112(f) applies. For one, the term does not include the word "means."

15   More importantly, the term "data storage module" contains enough structure in itself and

16   as supported by the specification. As the Federal Circuit explained, "[t]o determine if the

17   claim recites sufficient structure, it is sufficient if the claim term is used in common

18   parlance or by persons of skill in the pertinent art to designate structure, even if the term

19   covers a broad class of structures and even if the term identifies the structures by their

20   function." *TecSec, Inc.*, 731 F.3d at 1347 (internal quotation marks omitted). Here, both

21   Plaintiff and Defendant agree that the term contains sufficient structure.   Plaintiff

22   additionally concedes that "storing data is a basic function of a microprocessor and such

23   structures are indisputably well-known." (Pl.'s Br. 23, ECF No. 49.) Thus, Plaintiff's

24   reliance on *Farstone Tech* is misplaced, as Defendant suggests, because that claim term

25   required additional limitations besides simply storing data. *See Farstone Tech, Inc.*, 2015

26   WL 5898273, at *5 (finding that "'storing' is an oversimplification of the backup/recovery

27   module's function" because it includes steps "to collect and process 'the data in the

28   recovery unit [to] allow[] the user to recover a computer equipment back to a previous

1   state'"); *see also TecSec, Inc.*, 731 F.3d at 1348 (finding that "system memory means" was

2   sufficient structure to perform the "storing data" function and distinguishing a previous

3   case because the "system memory means" at issue in that case performed a more specific

4   function than simply storing data). Accordingly, the Court finds that "data storage module"

5   is not a means-plus-function term governed by § 112(f). Thus, the Court construes the

6   term "data storage module" to mean "hardware and/or software that stores data."

7   **C. "communications module" ('441 patent, claims 1, 8, 9, 16)**

8   Plaintiff argues the term is governed by 35 U.S.C. § 112(f) and should be construed

9   as "structure for forwarding the motion data at the data storage module to a motion

10   computing device." (ECF No. 83, at 2–3.) Defendant argues the term is not governed by

11   that Section and would construe the term as "hardware and/or software for communicating

12   data between devices." (*Id.*) The Court agrees with Defendant, modifies its construction,

13   and construes "communications module" to mean "hardware and/or software capable of

14   transmitting data between devices."

15   As above, Plaintiff argues that "communications module" is a means-plus-function

16   term because it is claimed as functional language. (Pl.'s Br. 24, ECF No. 49.) Specifically,

17   Plaintiff argues that the communications module "forward[s] the motion data stored at the

18   data storage module to a motion computing device for motion recognition." (*Id.* (citing

19   '441 patent at claim 1, 12:61–64, 4:49–51).) Plaintiff concedes that the specification

20   describes adequate structure for transmitting motion data via conventional software and

21   hardware, (*id.* at 25 (citing '441 patent, at 3:28–32)), and thus argues that "communications

22   module" must be construed as structure for forwarding the motion data at the data storage

23   module to a motion computing device, (*id.*).

24   Defendant reasserts the same arguments made regarding "data storage module."

25   (Def.'s Resp. Br. 13, ECF No. 60.) In particular, Defendant argues that a person of ordinary

26   skill would understand "communications module" to mean hardware and/or software for

27   communicating data between devices, and thus Plaintiff has not overcome the presumption

28   that § 112(f) does not apply. (*Id.* (citing Nesbit Decl. ¶¶ 46–47).) Additionally, because

1   Plaintiff admits that the function of the "communications module" is to "forward the

2   motion data stored at the data storage module to a motion computing device for motion

3   recognition," Defendant argues that these functions are well known and conventional, and

4   thus the module conveys sufficient structure. (*Id.*)

5   As above, the Court agrees with Defendant that "communications module" does not

6   trigger a presumption that § 112(f) applies because the term "communications module"

7   does not contain the word "means" and additionally contains sufficient structure in itself

8   and as supported by the specification.   Specifically, both parties agree that the

9   "communications module" forwards motion data stored at the data storage module to a

10 motion computing device for motion recognition and that the specification describes

11 adequate structure for transmitting that motion data through conventional software and

12 hardware. *See, e.g.*, '441 patent at 3:28–32 (discussing several methods including, for

13 instance, a wired network or wireless channel like WiFi). Accordingly, the Court finds

14 that the term is not a means-plus-function term governed by § 112(f). Thus, the Court

15 construes "communications module" to mean "hardware and/or software capable of

16 transmitting data between devices."[12]

17   **D. "initial motion recognition" ('441 patent, claims 1, 9, 13, and 15)**

18   Defendant would construe the term as "initial processing of data acquired by motion

19 sensors." (ECF No. 83, at 3.) Plaintiff would construe the term as "detection of beginning

20 of movement." (*Id.*) The Court largely agrees with Defendant, modifies its construction,

21 and construes "initial motion recognition" to mean "initial processing of motion data

22 acquired by motion sensors."

23   Plaintiff responds that Defendant's broad construction is not tethered to the main

24 purpose of the initial recognition module, which is to *detect* motion. (Pl.'s Resp. Br. 13,

25

26 [12] The Court modifies Defendant's proposed construction for two reasons. First, the specification does
    not use the word "communicating" to describe the module's actual function, but instead uses "transmit"
27 in several locations. *See, e.g.*, '441 patent, at 4:46–49. Additionally, the word "for" is somewhat
    imprecise and aspirational, whereas the phrase "capable of" more accurately describes the functioning of
28 the module.

ECF No. 59 (citing '441 patent, at 3:46–48 ("the initial motion recognition module is configured to perform an initial recognition with respect to the motion data"); *id.* at 3:52–53 ("The main purpose of the initial recognition conducted by the initial motion recognition module is to detect motion." (emphasis removed))).) Plaintiff explains that once the motion trigger is detected (i.e., the exact moment that movement is identified), the '441 patent generally describes how the initial motion recognition performs an "initial recognition with respect to motion data acquired by a sensor." (Pl.'s Br. 26, ECF No. 49 (citing claims 1, 9; 3:52–4:7, 5:43–58).) Moreover, Plaintiff argues that its construction of "initial motion recognition" is meaningfully different than its proposed construction of "motion trigger point," which it contends refers to detection at a precise point in time. Thus, Plaintiff argues that its constructions of these two terms are in line with the doctrine of claim differentiation, which generally requires that different claim terms have different meaning. (*Id.*) Finally, Plaintiff argues that Defendant's construction is confusing and prone to misinterpretation because it is not tethered to identifying motion, thus improperly broadening the claim. (*Id.*)

The Court agrees with Defendant and finds that "initial motion recognition" requires more than "detection of beginning of movement," as Plaintiff suggests. For one, the plain language of the claims contemplate that the "initial motion recognition" requires additional calculation beyond merely noting the beginning of a user's movement.[13] For example, claim 1 recites that after the initial motion recognition module performs its initial motion recognition, it provides data (1) prior to the motion trigger point, (2) regarding the motion trigger point, and (3) after the motion trigger point to the storage module, which then sends it to the computing device for actual motion recognition. In order to determine what data fits either category, the "initial motion recognition" must include at least some data processing. The specification of the '441 patent provides additional support for this

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[13] Because of this the Court need not reach the parties' competing arguments regarding claim differentiation.

1   conclusion. *See, e.g.*, '441 patent, at 3:46–51 ("The initial motion recognition module is

2   configured to <u>perform an initial recognition</u> with respect to the motion data collected by

3   the sensor, and <u>provide the motion data describing a predefined range</u> around a motion

4   trigger point to the data storage module, which then stores the motion data transmitted from

5   the initial motion recognition module." (emphases added)); *id.* at 3:60–66 ("Considering

6   that the motion computing device demands data prior to the start of the motion in the

7   subsequent analysis and computation, the initial motion recognition module is required to

8   provide not only the motion data after the motion trigger point (including the motion trigger

9   point per se) to the data storage module, but also the data before the motion trigger point.")

10   To be sure, the patent does explain that "[t]he <u>main purpose</u> of the initial recognition

11   conducted by the initial motion recognition module is to <u>detect motion</u>, to be more specific,

12   to initially detect a motion trigger point." '441 patent, at 3:52–60 (emphases added).

13   However, the patent does not explain that this is the *only* purpose, or, more importantly,

14   that this detection occurs without some initial data processing. Nor does Plaintiff cite to

15   anything suggesting so. In contrast, as discussed above, the intrinsic evidence—including

16   the claim language itself—supports Defendant's construction. Accordingly, the Court

17   construes "initial motion recognition" to mean "initial processing of motion data acquired

18   by motion sensors."[14]

19   **E. "stance" ('610 patent, claims 1, 2, 13, 14)**

20   Defendant would construe the term as "orientation." (ECF No. 83, at 3.) Plaintiff

21   would construe the term as "orientation relative to the three-dimensional geomagnetic

22   coordinate system." (*Id.*) The Court construes the term according to its plain and ordinary

23   meaning.

24   / / /

25

26   _____

27   [14] In modifying Defendant's proposed construction, the Court is persuaded, as Plaintiff suggests, that
     Defendant's construction appears untethered to motion data and thus may broadly encompass non-motion

28   related data. Additionally, at the *Markman* hearing, Defendant was willing to accept the Court's slightly
     modified construction. (Hr'g Tr. 10, ECF No. 91.)

1   Defendant explains that the '610 patent is directed to a method of ball game motion

2   recognition that analyzes several motion parameters, such as acceleration, velocity, stance,

3   and position. (Def.'s Br. 29, ECF No. 48.) According to Defendant, when "stance" is

4   discussed in the patent, there is no reference to the geomagnetic coordinate system; rather,

5   it is discussed generally in the context of how a person is oriented around an object. (*Id.*)

6   For instance, the specification explains that "in a golf swing motion, the hands of the golfer

7   hold the golf club, and the corresponding positions of the hands and the golf club are fixed.

8   Thus, the positions and stances of the hands correspond to the position and stance of the

9   golf club." (*Id.* (citing '610 patent, at 3:25–29).) Defendant cites to other passages in the

10   specification to argue that nothing in the patent or its prosecution history warrants imposing

11   the additional limitations proffered by Plaintiff. (*Id.* (citing '610 patent, at 11:24–38; 12:7–

12   10).)

13   Plaintiff responds that Defendant disingenuously claims that the patent makes no

14   reference to a geomagnetic coordinate system when discussing "stance." (Pl.'s Resp. Br.

15   13, ECF No. 59.) To the contrary, Plaintiff argues that Defendant explicitly defined the

16   term "stance" to include a "stance" matrix, such that the stances can only be determined

17   with reference to the three-dimensional geomagnetic coordinate system. (*Id.* (citing '610

18   patent, at claim 1; Figure 4; 12:31–36 ("T_{init} can be an original stance matrix *corresponding*

19   *to the three-dimensional geomagnetic coordinate system* at the original time t_0. T_t can be

20   an original stance matrix *corresponding to the three-dimensional geomagnetic coordinate*

21   *system* at the sampling time t." (emphases supplied by Plaintiff)).) Plaintiff further argues

22   that T_t and T_{init} are defined as stance matrices with three-dimensional angle data of a

23   recognized object that is captured by a magnetometer at two points in time. (Pl.'s Br. 27,

24   ECF No. 49 (citing '610 patent, at 5:35–37).) Furthermore, Plaintiff argues that every

25   embodiment of "stance" is tethered to the geomagnetic coordinate system. (*Id.* at 27–28

26   (collecting citations).) Thus, Plaintiff argues that Defendant's construction improperly

27   broadens the claim to mean simply "orientation," and, without a frame of reference,

28   "orientation" is meaningless. (*Id.* at 28.)

1   Defendant replies that Plaintiff seeks to improperly import limitations from the

2   specification into the claims and also ignores the doctrine of claim differentiation. (Def.'s

3   Resp. Br. 14, ECF No. 60.) Specifically, Defendant argues that Plaintiff seeks to read-in a

4   three-dimensional geomagnetic coordinate system into "stance" from a single embodiment,

5   which is improper at least because those additional limitations are recited in dependent

6   claims. (*Id.*) Indeed, Defendant argues that dependent claims 2, 14, and 26 of the '610

7   patent expressly introduce tri-axial magnetometers or geomagnetic coordinate systems, and

8   thus claim 1 is presumed not to include such limitations. (*Id.*) Furthermore, Defendant

9   argues that the specification makes clear that "the MEMS sensor device is provided as an

10   example," and "the invention is not limited to the MEMS sensor device, and other sensor

11   device can be utilized to perform sampling of the motion data in the embodiments of the

12   invention." (*Id.* (citing '610 patent, at 19:24–29).)

13   The Court agrees with Defendant and finds that Plaintiff's construction improperly

14   imports limitations from certain embodiments into the claim language. As Defendant

15   explains, the specification clarifies that

16

17   in the embodiments of the invention, the MEMS sensor device is
         provided as an example of the sensor device. However, the invention is
18   not limited to the MEMS sensor device, and other sensor device can be
         utilized to perform sampling of the motion data in the embodiments of
19   the invention. The preferred embodiments of the present invention have
20   been disclosed in the examples to show the applicable value in the
         related industry. However the examples should not be construed as a
21   limitation on the actual applicable scope of the invention, and as such,
22   all modifications and alterations without departing from the spirits of
         the invention and appended claims shall remain within the protected
23   scope and claims of the invention.

24

25   '610 patent, at 19:24–37. Indeed, even Plaintiff's citations to the specification demonstrate

26   that "stance" *can* be so limited, not that it must be. (Pl.'s Br. 27–28, ECF No. 49 (citing

27   '610 patent, at 12:31–36 ("T_{init} <u>can be</u> an original stance matrix corresponding to the three-

28   dimensional geomagnetic coordinate system at the original time t_0. T_t <u>can be</u> an original

1   stance matrix corresponding to the three-dimensional geomagnetic coordinate system at

2   the sampling time t.") (emphases added)).)   Moreover, Plaintiff fails to cite the entire

3   sentence from which it plucks this particular clause. That sentence fully reads: "If the

4   MEMS sensor device in FIG. 1 is used to sample motion data for confirming the motion

5   parameters, T_{init} can be an original stance matrix corresponding to the three-dimensional

6   geomagnetic coordinate system . . . ." '610 patent, at 12:30–36 (emphases added). As just

7   explained, the patent discloses the MEMS sensor as an *example*, not as the sole limitation.[15]

8   Furthermore, the doctrine of claim differentiation operates as a presumption that if

9   a dependent claim has a particular limitation, its independent claim does not. *Liebel-*

10 *Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) ("As this court has

11 frequently stated, the presence of a dependent claim that adds a particular limitation raises

12 a presumption that the limitation in question is not found in the independent claim.") Here,

13 for example, claim 13 of the '610 patent describes an apparatus including a formula that

14 explains "T_t is a stance corresponding to the sampling time t, and T_{init} is a stance

15 corresponding to the original time t_o of the motion." Yet dependent claim 26 claims a

16 sensor comprising "a tri-axial magnetometer to sample the angle of the recognized object

17 corresponding to a three-dimensional geomagnetic coordinate system." Thus, there is a

18 presumption that the independent claims do not contain these additional limitations.

19 "Although that presumption can be overcome if the circumstances suggest a different

20 explanation, or if the evidence favoring a different claim construction is strong," *Liebel-*

21 *Flarsheim Co.*, 358 F.3d at 910, here the Court finds that, as discussed above, Plaintiff fails

22 to rebut the presumption. Thus, the Court construes the term "stance" according to its plain

23 and ordinary meaning.

24 / / /

25

26 _____

27 [15] And at the *Markman* hearing, Defendant explained that the formula disclosed in the claim does not require a geomagnetic coordinate system; rather, the formula simply requires at least one fixed position for reference, which can be determined without using a geomagnetic coordinate system. (Hr'g Tr. 19, ECF No. 91.)
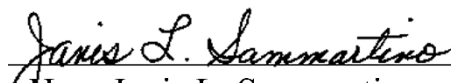
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1

CONCLUSION

2

The terms in dispute are construed as follows:

Term	Construction
"said data" Patent Nos. '928, '855, '521	"data that comprises sensor values"
"virtual reality system / virtual reality display" Patent Nos. '928, '855	"computer-simulated replication of an aspect of a physical environment / display showing a computer-simulated replication of an aspect of a physical environment"
"avatar" Patent Nos. '928, '527	"computer graphical representation of a user"
"broadcasting" Patent No. '527	"transmitting information capable of being received by multiple display devices"
"initial motion recognition module" Patent No. '441	"hardware and/or software that receives and processes data acquired by motion sensors"
"data storage module" Patent No. '441	"hardware and/or software that stores data"
"communications module" Patent No. '441	"hardware and/or software capable of transmitting data between devices"
"initial motion recognition" Patent No. '441	"initial processing of motion data acquired by motion sensors"
"stance" Patent No. '610	plain and ordinary meaning

IT IS SO ORDERED.

Dated: February 6, 2017

Janis L. Sammartino
Hon. Janis L. Sammartino
United States District Judge

15-CV-700 JLS (NLS)